

REMARKS

Claims 1–22 are pending, and Applicant did not amend the claims with this Response.

Now then, the Examiner rejected Claims 1–22 under 35 U.S.C. 102(e) as being anticipated by U.S. Pat. No. 6,974,417 to Lockwood et al. (Lockwood). However, the Examiner's June 17, 2008 non-final Office Action lacks sufficient substance for Applicant to prepare a proper response. For example,

➤ in said Office Action, the Examiner refers to Lockwood's Col. 4, Line 39 – Col. 5, Line 18 and asserts that Lockwood discloses “an ultrasound transducer array for imaging comprising an ultrasonic transducer having a piezoelectric polymer film adapted to transmit an ultrasonic acoustic signal from a front face along a signal path and a metallic backer plate adhered to a rear face of the piezoelectric polymer film.” *Examiner's Office Action, Page 2*. However, the Examiner fails to consider Applicant's additional words, for example, in Applicant's Claim 1, in which Applicant claims that Applicant's backer plate has a thickness along the signal path substantially thinner than one wavelength (*see, e.g., Applicant's Claim 1*). Accordingly, the Examiner has failed to consider all of the words and/or limitations in Applicant's claims. Moreover, Lockwood fails to disclose (or render obvious) any such applicable sizing of Applicant's backer plate, particularly as Applicant claimed in Applicant's Claim 1, and all of the dependent claims depending therefrom. Accordingly, the Examiner's rejection is incomplete, at best, and/or otherwise fails as well.

➤ in said Office Action, the Examiner next refers to Lockwood's Col. 1, Line 59 – Col. 2, Line 4 and asserts that “[i]t is well known in the art to fill the grooves cut into the transducer with a soft polymer material.” *Examiner's Office Action, Page 2*. However, the Examiner fails to point out the relevancy of this observation vis-à-vis Applicant's claimed innovations, and the observation, even if true, otherwise appears to be wholly irrelevant to Applicant's claimed innovations. Accordingly, the Examiner's rejection is incomplete, at best, and/or otherwise fails as well.

➤ in said Office Action, the Examiner next refers to Lockwood's FIG. 4 and asserts that Lockwood's device “includes a support structure supporting the metallic backer plate and having an acoustic impedance different from the backer plate.” *Examiner's Office Action, Page 2*. However, according to Lockwood, “FIG. 4 shows the impedance response (a) amplitude and (b) phase of the central and outermost elements of a 7 element kerfless annular array.” *Lockwood*,

*Col. 3, Lines 32 – 34.* Accordingly, Lockwood's FIG. 4 does not anticipate Applicant's claimed innovations, as the Examiner asserted. Indeed, Lockwood's FIG. 4 does not support the Examiner's assertion in any substantive way, and it otherwise appears to be wholly irrelevant to Applicant's claimed innovations. Accordingly, the Examiner's rejection is incomplete, at best, and/or otherwise fails as well.

The Examiner's Office Action continues in this haphazard fashion, loosely referring to Lockwood's teaching in a vacuum, and wholly without tying same to anything specific in Applicant's claims. The Examiner's assertions are non-specific, at best, and/or not tied to Applicant's claims in any meaningful way. Indeed, the Examiner does not directly link Lockwood's teachings, if any, to any of Applicant's claims. Rather, Applicant is forced to guess at every meaning of the Examiner's assertions. For example,

➤ in said Office Action, the Examiner refers to Lockwood's Col. 5, Line 42 – Col. 6, Line 9 and asserts that Lockwood's "piezoelectric polymer film provides separate electrical connections to an outer annular portion surrounding an independently supported annular inner center portion." *Examiner's Office Action, Page 2.* However, even if the Examiner's observation is true, so what? The Examiner fails to point out, which, if any, of Applicant's claims this impacts.

➤ in said Office Action, the Examiner next refers to Lockwood's Col. 5, Lines 15 – 18 and asserts that Lockwood teaches that Lockwood's backing layer is "of a material such as tungsten-loaded epoxy or alumina-loaded epoxy with a thickness of about 0.5 to 15 mm." *Examiner's Office Action, Page 2.* However, even if the Examiner's observation is true, so what? The Examiner fails to point out, which, if any, of Applicant's claims this impacts. For example, in Applicant's Claim 1, Applicant claims that Applicant's backer plate has a thickness along a signal path substantially thinner than one wavelength, and the Examiner failed to point out a proper nexus between the teachings of Lockwood, if any, and Applicant's claim limitations.

➤ in said Office Action, the Examiner next refers to Lockwood's Col. 10, Lines 18 – 34 and asserts that Lockwood's "arrays include 64 elements, a single front quarter-wavelength matching layer, and a high loss, high impedance backing layer." *Examiner's Office Action, Page 3.* However, even if the Examiner's observation is true, so what? The Examiner fails to point out, which, if any, of Applicant's claims this impacts.

➤ in said Office Action, the Examiner next refers to Lockwood's Col. 10, Lines 35 – 59 and asserts that Lockwood's "elements are defined by evaporating a chrome-gold electrode through a thin stainless steel mask onto the back surface of a 1.0 mm disk with electrical connections made to individual electrodes on the back surface with a 2 cm thick backing layer." *Examiner's Office Action, Page 3*. However, even if the Examiner's observation is true, so what? The Examiner fails to point out, which, if any, of Applicant's claims this impacts.

➤ in said Office Action, the Examiner finally refers to Lockwood's Col. 7, Lines 13 – 45 and asserts that Lockwood's "system enables non-destructive imaging for biomedical applications to capture a 3D ultrasound image of an anatomy of interest." *Examiner's Office Action, Page 3*. However, even if the Examiner's observation is true, so what? The Examiner fails to point out, which, if any, of Applicant's claims this impacts.

In accordance with the above, the Examiner's Office Action lacks sufficient substance for Applicant to prepare a proper response. However, as a courtesy to the Examiner, Applicant offers the following additional observations:

The Examiner failed to distinguish between transmitters / transducers having backing layers (a well-known practice) and backer plates. More specifically, Lockwood fails to disclose Applicant's backer plate. While it may disclose a backing layer, this is not the same as a backer plate. Accordingly, Lockwood fails to disclose (or render obvious) Applicant's backer plate, particularly as adhered to a rear face of a piezoelectric polymer film. Thus, the Examiner's rejections fail.

Since Lockwood fails to disclose Applicant's backer plate, it also necessarily fails to disclose that Applicant's backer plate is metallic. Accordingly, Lockwood fails to disclose (or render obvious) Applicant's metallic backer plate. Thus, the Examiner's rejections fail.

Since Lockwood fails to disclose Applicant's backer plate, it also necessarily fails to disclose any size indications of Applicant's backer plate – whether relative to wavelengths of an acoustic signal or in absolute dimensions. Accordingly, Lockwood fails to disclose (or render obvious) that Applicant's metallic backer plate is substantially thinner than one wavelength. Thus, the Examiner's rejections fail.

Since Lockwood fails to disclose Applicant's backer plate, it also necessarily fails to disclose Applicant's support structure for same. Accordingly, Lockwood fails to disclose (or

render obvious) a support structure for Applicant's backer plate. Thus, the Examiner's rejections fail.

Since Lockwood fails to disclose Applicant's backer plate and support structure, it also necessarily fails to disclose any acoustic differences therebetween. Accordingly, Lockwood fails to disclose (or render obvious) different acoustic impedances between Applicant's backer plate and support structure. Thus, the Examiner's rejections fail.

CONCLUSION

Applicant respectfully submits that all pending claims are patentable and in a condition for allowance, which Applicant respectfully requests.

Applicant also believes this Response should allow the Examiner to allow the above-referenced patent application to issue as a U.S. patent without further amendments to the specification or claims. Thus, Applicant also seeks notification to that effect.

If questions arise, please telephone Applicant's undersigned attorney.